IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method of manufacturing a semiconductor device having a dielectric capacitor including a bottom electrode, a dielectric layer and a top electrode on an underlying substrate having a three-dimensional structure, comprising:

providing a substrate having an insulation layer provided thereon, the insulation layer having a hole formed therein;

forming a bottom electrode on at least a side wall of the insulation layer in the hole;

providing a dielectric layer on the bottom electrode; and

forming a top electrode on the dielectric layer;

wherein the bottom electrode and the top electrode are formed by a metalorganic chemical vapor deposition process at 180°C or higher and 250°C or lower using a cyclopentadienyl ruthenium complex as a precursor and a reaction gas selected from the group consisting of O_2, H_2, N_2O, O_3, CO and CO_2, where a volume ratio of the reaction gas to a carrier gas is 1% or more.

2. (currently amended) A method of manufacturing a semiconductor device as defined in claim 1, wherein one of O_2,[[H_2,]] N_2O, O_3, CO and CO_2 is used as a reaction gas and the volume ratio of the reaction gas to a carrier gas is 1% or more.

3. (canceled)

4. (canceled)

5. (currently amended) A method of manufacturing a semiconductor device as defined in claim 1 ~~or 2~~, wherein each of the top electrode and the bottom electrode comprises Ru, RuO_2 or a mixture of Ru and RuO_2.

6. (canceled)

7. (canceled)

8. (currently amended) A method of manufacturing a semiconductor device as defined in claim 1 ~~or 2~~, wherein the cyclopentadienyl ruthenium complex is dissolved in an organic solvent having a solubility for the starting precursor of 0.05 mol/l or more, by a liquid carrying and evaporation, metalorganic chemical vapor deposition process.

9. (canceled)

10. (canceled)

11. (canceled)

12. (previously presented) A method of manufacturing a semiconductor device as defined in claim 8, wherein the organic solvent is selected from the group consisting of tetrahydrofuran, toluene, hexane and octane.

13. (canceled)

14. (canceled)

15. (previously presented) A method of manufacturing a semiconductor device as defined in claim 1, wherein said dielectric layer is formed by a metalorganic chemical vapor deposition process.

16. (previously presented) A method of manufacturing a semiconductor device as defined in claim 1, wherein the bottom electrode is formed homogenously on the side wall of the insulation layer in the hole and on the bottom of the hole.

17. (previously presented) A method of manufacturing a semiconductor device as defined in claim 16, wherein the hole has an aspect ratio of depth/diameter of 3 or more.